

## Amendments to the Claims

1. *(Currently Amended)* A method of identification, in a succession of acquired images  $(A_t, A_{t+1})$  each formed from a matrix of pixels to a first format, of a following sub-image  $(SA_{t+1})$  extracted from a following acquired image  $(A_{t+1})$  corresponding to a prior sub-image  $(SA_t)$  extracted from a prior acquired image  $(A_t)$ , said sub-images  $(SA_t, SA_{t+1})$  being formed from a matrix of pixels to a second format smaller than the first format, the method comprising the steps consisting of:

- calculating, for the prior sub-image  $(A_t)$ , at least one distribution  $(SH_t^h, SH_t^v)$  of a characteristic quantity of each pixel for blocks forming a predefined partitioning of the sub-image;
- calculating the same distribution for at least two would-be sub-images of the second format extracted from the following acquired image  $(A_{t+1})$ ; and
- determining the corresponding following sub-image  $(SA_{t+1})$  from among the would-be sub-images, as the sub-image where the or each calculated distribution has the highest correlation with the same calculated distribution for the prior sub-image  $(SA_t)$  according to a predefined correlation law.

2. *(Currently Amended)* A method as claimed in Claim 1, characterized in that it comprises the steps of:

- calculating an extended distribution  $(H_{t+1}^h, H_{t+1}^v)$  for an extended range of the following acquired image  $(A_{t+1})$ ;
- calculating the correlations between the calculated distribution for the prior sub-image  $(A_t)$  and a corresponding portion of the extended distribution  $(H_{t+1}^h, H_{t+1}^v)$  for several shifts of the prior sub-image  $(SA_t)$  with respect to the following acquired image  $(A_{t+1})$ ; and
- determining the corresponding following sub-image  $(SA_{t+1})$  as the sub-image of the following acquired image  $(A_{t+1})$  corresponding to the shift  $(m)$  of the prior sub-image  $(SA_t)$  with respect to the following acquired image  $(A_{t+1})$  for which the calculated correlation between the distributions is the highest.

3. *(Currently Amended)* A method as claimed in ~~Claim 1 or 2~~claim 1, characterized in that the blocks forming a predefined partitioning of the sub-image for calculating at least one distribution are lines and/or columns of the sub-image.

4. *(Currently Amended)* A method as claimed in ~~any one of the preceding claims~~claim 1, characterized in that said characteristic quantity of each pixel is a parameter chosen from the group consisting of luminance, blue chrominance, red chrominance, red component, green component and blue component.

5. *(Currently Amended)* A method as claimed in ~~any one of the preceding claims~~claim 1, characterized in that the correlation law is defined as the inverse of the Euclidean distance separating two distributions.

6. *(Currently Amended)* A method of determining the movement, in a succession of acquired images each formed from a matrix of pixels to a first format, of a following sub-image ( $SA_{t+1}$ ) extracted from a following acquired image ( $A_{t+1}$ ) with respect to a corresponding prior sub-image ( $SA_t$ ) extracted from a prior acquired image ( $A_t$ ), said sub-images ( $SA_t$ ,  $SA_{t+1}$ ) being formed from a matrix of pixels to a second format smaller than the first format, the method comprising the steps consisting of:

- identifying, in the following acquired image ( $A_{t+1}$ ), the following sub-image ( $SA_{t+1}$ ) corresponding to the prior sub-image ( $SA_t$ ) by the use of a method as claimed in ~~any one of the preceding claims~~claim 1; and
- calculating any movement between the prior and following sub-images from the position of the prior ( $SA_t$ ) and following ( $SA_{t+1}$ ) sub-images in the prior ( $A_t$ ) and following ( $A_{t+1}$ ) acquired images.

7. *(Currently Amended)* A method of stabilizing images in a succession of acquired images each formed from a matrix of pixels to a first format, comprising the steps consisting of:

- determining any movement in the succession of acquired images of a following sub-image ( $SA_{t+1}$ ) issuing from a following acquired image ( $A_{t+1}$ ) with

respect to a corresponding prior sub-image ( $SA_t$ ) issuing from a prior acquired image ( $A_t$ ), by the use of a movement method as claimed in Claim 6;

- correcting said determined movement in order to take account of the effect of an intentional movement and to eliminate the effect of an unintentional movement; and

- adopting as the following image ( $SA_{t+1}$ ) a sub-image of the following acquired image ( $A_{t+1}$ ) shifted from the prior sub-image ( $SA_t$ ) by said corrected movement.

8. *(Currently Amended)* A computer program product for a data processing unit, comprising a set of instructions for executing steps of the method as claimed in ~~any one of the preceding claims~~ claim 1, when said program is executed by a data processing unit.

9. *(Currently Amended)* A device for identification, in a succession of acquired images ( $A_t, A_{t+1}$ ) each formed from a matrix of pixels to a first format, of a following sub-image ( $SA_{t+1}$ ) extracted from a following acquired image ( $A_{t+1}$ ) corresponding to a prior sub-image ( $SA_t$ ) extracted from a prior acquired image ( $A_t$ ), said sub-images ( $SA_t, SA_{t+1}$ ) being formed from a matrix of pixels to a second format smaller than the first format, the device comprising:

- means for calculating, for the prior sub-image ( $A_t$ ), at least one distribution ( $SH_t^h, SH_t^v$ ) of a characteristic quantity of each pixel for blocks forming a predefined partitioning of the sub-image;

- means for calculating the same distribution for at least two would-be sub-images to the second format extracted from the following acquired image ( $A_{t+1}$ ); and

- means for determining the corresponding following sub-image ( $SA_{t+1}$ ) from among the would-be sub-images, as the sub-image where the or each calculated distribution has the highest correlation with the same distribution calculated for the prior sub-image ( $SA_t$ ) according to a predefined correlation law.

10. *(Currently Amended)* A device for determining the movement, in a succession of acquired images each formed from a matrix of pixels to a first format,

of a following sub-image ( $SA_{t+1}$ ) extracted from a following acquired image ( $A_{t+1}$ ) with respect to a corresponding prior sub-image ( $SA_t$ ) extracted from a prior acquired image ( $A_t$ ); said sub-images ( $SA_t$ ,  $SA_{t+1}$ ) being formed from a matrix of pixels to a second format smaller than the first format, the device comprising:

- an identification device as claimed in Claim 9 for identifying in the following acquired image ( $A_{t+1}$ ) the following sub-image ( $SA_{t+1}$ ) corresponding to the prior sub-image ( $SA_t$ ); and
- means for calculating the movement between the prior and following sub-images from the position of the prior ( $SA_t$ ) and following ( $SA_{t+1}$ ) sub-images in the prior ( $A_t$ ) and following ( $A_{t+1}$ ) acquired images.

11. (*Currently Amended*) A device for stabilizing images in a succession of acquired images each formed from a matrix of pixels to a first format, comprising:

- a device for determining the movement as claimed in Claim 10 for determining the movement in the succession of acquired images of a following sub-image ( $SA_{t+1}$ ) issuing from a following acquired image ( $A_{t+1}$ ) with respect to a corresponding prior sub-image ( $SA_t$ ) issuing from a prior acquired image ( $A_t$ );
- means for correcting said determined movement for taking account of the effect of an intentional movement and eliminating the effect of an unintentional movement; and
- means for adopting, as the following sub-image ( $SA_{t+1}$ ), a sub-image of the following acquired image ( $A_{t+1}$ ) shifted from the prior sub-image ( $SA_t$ ) by said corrected movement.